

City of Pasadena

NPDES Stormwater Program Engineers & Inspectors Training June 16, 2009



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Stormwater-NPDES Background

- It is the law
- It is Federal, State, and County wide
- The City's Municipal Permit
- Aggressive Environmental activists
- Recent Regional Board report on violations
- Only Rain in the Storm Drain system
- Best Management Practices (BMPs)
- Common sense



Goals of the Planning Program

- Reduce Potential Pollution from future Development or Redevelopment Projects
- Incorporate Control measures in the planning phase

Urban Stormwater Mitigation Plan (USMP)

- City to require submittal of USMP in planning phase for **Priority projects**
- Plan to include measures to reduce and eliminate non-stormwater discharges and pollution in stormwater runoff
- City to approve Plan prior to any Permit issuance



*Biofilter (gravel) for runoff
from driveway and roof*

Concrete Pavers with Groundcover Infill for Driveway



Priority Projects

Part I

- ◆ 10 or more unit Residences
- ◆ 1 acre or more of industrial/commercial
- ◆ Automotive service facilities
- ◆ Retail gas outlets
- ◆ Restaurants
- ◆ Parking lots with 25 or more parking spaces
- ◆ Redevelopment projects
- ◆ All Hillside Projects
- ◆ Adjacent to or in Environmentally Sensitive Areas (ESA)

Priority Projects

Part II

Projects with:

- ◆ Vehicle or equipment fueling area
- ◆ Vehicle or equipment maintenance areas
- ◆ Commercial or industrial waste handling or storage
- ◆ Outdoor handling or storage of hazardous materials
- ◆ Outdoor manufacturing area
- ◆ Outdoor food handling or processing area
- ◆ Outdoor animal care, confinement or slaughter area
- ◆ Outdoor horticulture activities

Standard Stormwater Mitigation Plan (SUSMP)

Part I Priority Projects to submit SUSMP

- Include General requirements
- Include Numerical Design Criteria

Site Specific Mitigation Plan (SSMP)

Part II of Priority Projects to submit SSMP

- Include all General requirements
- Include Site Specific Control Measures

General Requirements

- ◆ Reduce peak runoff discharge rates
- ◆ Conserve natural areas
- ◆ Minimize pollutants
- ◆ Maximize permeable areas
- ◆ Proper design to avoid breeding of vectors
- ◆ Protect slopes and channels
- ◆ Signs and stencils
- ◆ Proper design of outdoor material and trash storage areas
- ◆ Ongoing BMP maintenance & agreement
- ◆ Proper design of Trash area

Numerical Design Criteria Requirements

Design standard for structural or treatment control devices to mitigate, infiltrate, filter, or treat stormwater runoff based on:

- Volume of runoff produced from 0.75 inch rain event (Rain > 0.1 inch in 24hrs)
- or
- Flow of runoff produced from a rain event equal to 0.2" / hour intensity

RWQCB New Requirements

Part 4.D of the Permit

- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground
- Minimize the quantity of storm water directed to impervious surfaces and the MS4
- Minimize pollution from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices



12/31/2005

Post-construction Site Design

- Include infiltration, retention/detention, bioretention and biofilters
- Integrate fully the opportunities to maximize the percentage of pervious surfaces and minimize the volume of storm water runoff



12/31/2005

Minimize Impervious Surface Areas

- Reduce Percentage of effective impervious area to a standard 5% or less of the total project area
- EPA recommended bioretention sizing criterion of 5-7% of the drainage area multiplied by the rational method runoff coefficient “C” determined for the site
- Southern Calif lower sizing criterion of 3-5%

Site Specific BMPs

- Control Measures or Best Management Practices (BMPs) that are best suited for the Site



Site Specific BMP

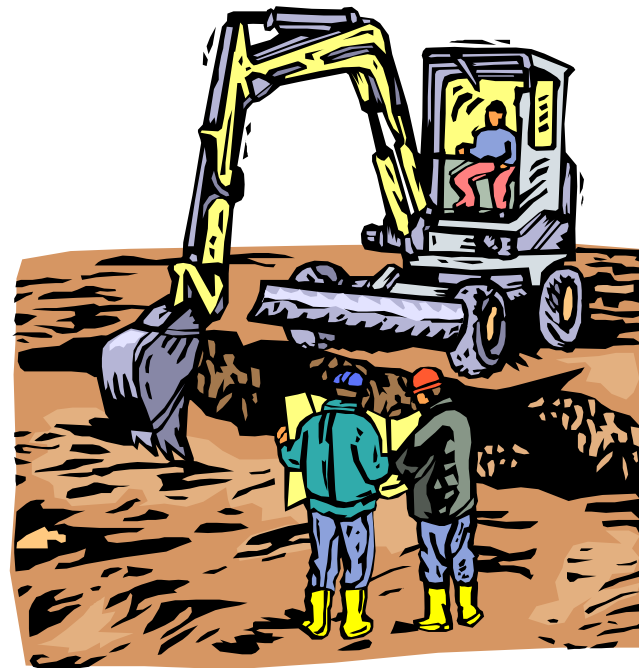


Site Specific BMP



Construction Program

- Reduce or Eliminate potential pollutants from all sites
- Implement (BMPs)
- Preventive Measures
- Control Measures



Plan Approval Process

- Review Plans
- Incorporate BMPs
- Approve Plans
- No Permit prior to Storm water approval
- Inspection
- Enforcement



Plan Requirements



- **Name, location, schedule, and description of the project**
- **Contact information for the owner and contractor**
- **The Building / Grading permit number**
- **A list of major construction materials, wastes, and activities**
- **A list of BMPs to be used to control pollutant discharges**
- **A site plan indicating the selection of BMPs and their location**
- **Non-storm water discharges, their locations, and the BMPs necessary to prevent the discharge**
- **A maintenance and self-inspection schedule of the BMPs to determine the effectiveness and necessary repairs of the BMPs**

Minimum BMPs All Projects

- Sediment Control
- Material Control
- Erosion Control
- Tracking Control
- Wind Control
- Vehicle maintenance
- Site Management



Wet Weather Erosion Control WVEC

- Additional BMPs November-April
- Control Sediment runoff
- Erosion control
- Inspection of all sites



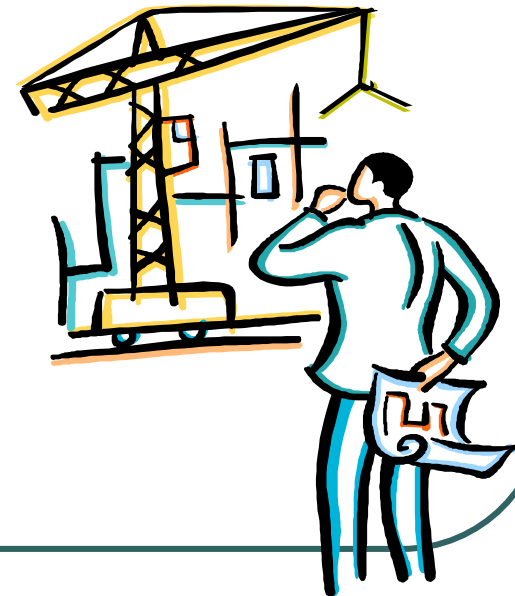
Sites over 1 Acre

- File Notice of Intent (NOI) for State General Permit
- Prepare/Review State SWPPP
- Implement temporary BMPs
- Submit notice of Termination
- Implement post and/or permanent BMPs

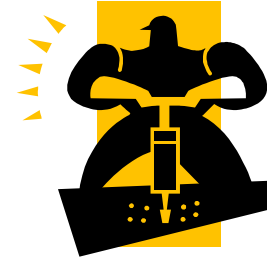


Construction Site Inspection

- Min one inspection per rainy season at all sites
- Check for appropriate BMPs
- Check State Permit and SWPPP if over 1 acre
- Report serious violations of State Permit to Regional within 72 hours Or 15 days for non-filers
- Issue notice of Violation
- Terminate job if violation not corrected



Saw Cutting

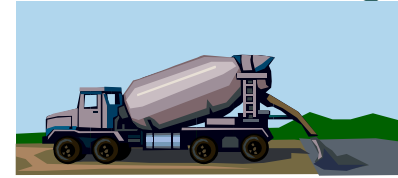
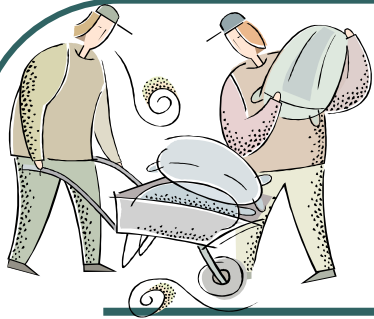


- Prevent materials resulting from saw-cut activities from entering the storm drain system.
- Sawcutting wastes are to be recovered and disposed of properly
- In no case shall waste be left on a roadway or allowed to enter the storm drain.
- No saw-cut activities during wet weather if possible
- Stop wet slurry from entering street or gutter
- Prevent slurry material from entering catch basin openings, maintenance holes, and storm drain inlets during wet cutting
- Collection of captured flow for proper disposal
- Clean up spills from equipment and activities and dispose properly
- Store sawcutting materials away from drainage areas

PAVING



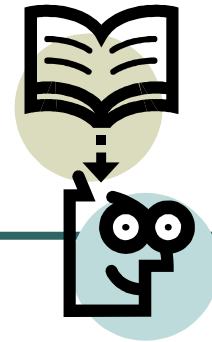
- No paving activities during wet weather if possible
- Prevent paving materials from entering catch basin openings, maintenance holes, and storm drain inlets during application of liquid or emulsified asphalt, seal coat, tack coat, slurry seal, fog seal, etc.
- Store paving materials away from drainage areas
- Do not clean paving equipment on site; restrict equipment cleaning to an appropriate designated location



Concrete Work

- Wash concrete trucks off site or in designated areas on site, such that there is no discharge of concrete washwater into storm drains, open ditches, streets, catch basins, or other storm water conveyance structures.
- When washing poured concrete areas to remove fine particles and expose the aggregate, contain the wash water for proper disposal.
- Store concrete materials under cover, away from drainage areas, or implement other equally effective BMPs.
- Avoid mixing excess amounts of concrete on site

Education



- Educate yourself
- Educate new employees
- Educate Public
- Educate Contractors and Developers



Record Keeping

- Annual Report data
- Number of Building Permits
- Number of total inspections
 - Sites with violations
- Total number of projects
 - BMPs used

